

MSE Wall Geogrid—Structural and Mechanical Properties	
Extension @ Design Load (0.4 Ult.)	3.0% maximum
Modulus in Tension	9000 ksi (62 000 MPa)
Thermal Stability	Stable over a range of -60 °F to 174 °F (-51 °C to 79 °C)
Note: Tests are based on 10 single rib samples extended at a constant rate of 1 inch (25 mm)/min. at a temperature of 68 ± 4 °F (20 ± 2 °C.)	

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test geogrid according to the following:

Test Property	Test Method
Reinforced Slopes	
Tensile Strength—Wide Width	ASTM D 4595
Tensile Strength—Single Rib Strand	GRI – GG1
Junction Strength	GRI – GG2-87
Tensile Creep Testing	GRI – GG3a or GG3b
Geogrid Pullout	GRI –GG5
MSE Wall Backfill Stabilizing Geogrid (SR 3)	
Melt Index	ASTM D 1238
Density	ASTM D 1505
Tensile Strength	ASTM D 638
Ultimate Elongation	ASTM D 638
Vicat Softening Point	ASTM D 1525
Brittleness	ASTM D 746

D. Materials Warranty

General Provisions 101 through 150.

809.2.01 Delivery, Storage, and Handling

During shipment and storage, protect the grid from mud, dirt, dust, debris and exposure to ultraviolet light, including sunlight.

Section 810—Roadway Materials

810.1 General Description

This section includes the requirements for the materials used in roadway construction.

810.1.01 Related References**A. Standard Specifications**

General Provisions 101 through 150.

B. Referenced Documents

GDT 4

GDT 6

GDT 7

GDT 67

810.2 Materials

810.2.01 Roadway Materials

A. Requirements

Do not use materials containing logs, stumps, sod, weeds, or other perishable matter.

1. Classes

The materials are divided into six major classes. Classes I, II, and III are further subdivided and identified by description and physical property requirements specified in the table below and in Table 1. Classes IV, V, and VI are identified by descriptive requirements.

Class I	
IA1 and IA2	Medium- to well-graded sand or clayey sand.
IA3	Fine-grained, silty, or clayey sand; usually less dense than IA1 or IA2. These soils have an excellent bearing capacity.
Class II	
IIB1, IIB2, and IIB3	Medium- to well-graded sandy clays, sandy silts, and clays with some mica. These soils generally have low volume change properties and good densities that serve well as subgrade material.
IIB4	Similar to IIB1, IIB2, and IIB3, but generally contain more mica and are more sensitive to moisture. The bearing value of these soils is less predictable. The soils may or may not be satisfactory for subgrade material. Analyze file data or run laboratory and/or field tests for Class IIB4 when considering it for a subgrade material.
Class III	
IIIC1, IIIC2, IIIC3 and IIIC4	Medium- to fine-graded micaceous sandy silts, micaceous clayey silts, chert clays, and shaly clays. Undesirable characteristics are high volume change properties and/or low densities. The bearing values are unpredictable. The Department recommends testing these materials in a laboratory, where possible, before use. One exception is District 6, where chert clay soils are prevalent. Chert clay soils (IIIC4) with less than 55% passing the No. 10 (2 mm) sieve may be considered suitable for subgrade materials. These soils are found generally in the northwest corner of the state in Dade, Walker, Catoosa, Whitfield, Murray, Chattooga, Gordon, and Floyd counties.
Class IV	Highly organic soils or peat, muck, and other unsatisfactory soils generally found in marshy or swampy areas.
Class V	Shaly materials that are not only finely laminated but have detrimental weathering properties and tend to disintegrate.
Class VI	Rock or boulders that cannot be readily incorporated into the embankment by layer construction, and that contain insufficient material to fill the interstices when they are placed.

Table 1: Physical Properties (Material Passing No. 10 (2.00 mm) Sieve)

Sub-Class	No. 60 (250 µm) Sieve % Passing	No. 200 (75 µm) Sieve % Passing	Clay, %	Volume Change, %	Maximum Dry Density lbs/ft ³ (kg/m ³)
Class I					
A1	15-65	0-25	0-12	0-10	115+ (1840+)
A2	15-85	0-35	0-16	0-12	110+ (1760+)
A3	15-100	0-25	0-12	0-18	98+ (1570+)
Class II					
B1		0-30	0-20	0-10	120+ (1920+)
B2		0-45	0-30	0-15	110+ (1760+)
B3		0-60	0-50	0-20	105+ (1680+)
B4		0-75		0-25	90+ (1440+)
Class III					
C1		0-75		0-30	90+ (1440+)
C2				0-35	80+ (1280+)
C3				0-60	80+ (1280+)
C4*					80- (1280-)
*Chert clay soils in District 6 having less than 55% passing the No. 10 (2.00 mm) sieve may be considered suitable for subgrade material.					

B. Fabrication

General Provisions 101 through 150.

C. Acceptance

Test as follows:

Test	Method
Soil gradation	GDT 4
Volume change	GDT 6
Maximum density	GDT 7 or GDT 67

D. Materials Warranty

General Provisions 101 through 150.

Section 811—Rock Embankment

811.1 General Description

This section includes the requirements for material used in rock embankment.

811.1.01 Related References**A. Standard Specifications**

General Provisions 101 through 150.